SL-II MC-835/1
Time: 06:00 CDT, 18:11:00 GMT
6/11/73

PAO This is complex 39 at the Kennedy Space Center where the rollout of Skylab III to pad B is beginning with first motion of the transporter. The trip to the pad will require an estimated 5 hours. We have a virtually wind-free morning, scattered clouds, but an ideal day for rollout. There are several thousand people gathered to observe the event, including representatives of the community, families of Kenney Space Center employees, and the Air Force Eastern Test Range, and the young people participating in the week-long space seminar sponsored by Hugh O'Brian, the United States J.C.s, and the National Secondary Principle's Association. The rocket, like Skylab II, rests on a pedestal 127 feet tall, which was constructed on a mobile launcher previously used for the Saturn V Apollo series of launches to the Moon. The rollout occurred precisely on schedule. There were no untoward events during the preparations. We should be on the pad shortly after noon today. This is Skylab Launch Control.

END OF TAPE

SL-II MC836/1
Time: 06:05 CDT, 18:11:05 GMT
6/.1/73

PAO This is Skylab Launch Control at complex 39 of the Kennedy Space Center where the hugh steel framework of the mobile launcher and it's red umbilical tower are emerging from the bay of the vehicle assembly building. Skylab III resting on a pedestal 127 feet tall, which was installed on the deck of the launcher, has begun it's 5-hour trip to pad B from which it will be launched July 27 carrying the second Skylab crew to rendezvous and dock with the space station in Earth orbit. Preparations for today's rollout were conducted with no untoward event. We're proceeding on schedule and expect to be on the pad about noon today. This is Skylab Launch Control.

END OF TAPE

SL-II MCC3?/1
Time: 06:18 CDT 18:11:18 GMT
6/11/73

PAO This is Skylab Control, at 11 hours 20 minutes Greenwich mean time. We're scheduled to put in a call to the crew, a wakeup call, in about 3 minutes over the Honeysuckle Creek, Australia, tracking station. And we've got an active day of experiments planned, including Apollo telescope mount operations, EREP 8; S073, gegenschien and zodical light; the medical experiments, M092 and M171; the lower body negative pressure and metabolic analyzer using the bicycle ergometer, also M131, and one of the solitary experiments, M512. One of the first activities the crew will have after completing their postsleep activities will be activation of the - operation of the Apollo telescope, rather. And we now have about 1 minute and 45 seconds before acquisition at Honeysuckle Creek. On ERPP pass 8 today, EREP data will be collected for approximately 28 minutes along a path that extends from the mouth of the Columbia River across the Rocky Mountains, The Gulf of Mexico and Columbia and ends in the Atlantic Ocean near Sao Paulo, Brazil. The data will be used for snow mapping in the Cascade Mountains, forest inventory in Colorado, pre-severe storm conditions and oil exploration in Oklahoma, sea surface and wind conditions in the Gulf of Mexico and crop inventory in Columbia, as well as resource studies in Brazil. Our flight director on the current shift is Neil Hutchinson. Capsule communicator, CAP COM, is Hank Hartsfield. And we have a television replay scheduled at 7:30 this morning, which will be television TV 7 of the M171 experiment. This is television which was accumulated yesterday on the onboard video tape recorder, dumped to ground stations over the night and the early morning hours and is being assembled for replay at 7:30 this morning.

CC Skylab, Houston through Honeysuckle for 8 minutes. Good morning.

SC Go ahead, Houston.

CC Roger. Good morning. We're with you for about 8 minutes or 7-1/2 minutes now through Honeysuckle.

SC Okay, we're hustling around, doing PSA.

CC Skylab, Houston. Sometime at your earliest convenience, we need somebody to change out the teleprinter paper. We're about to run out and we'd also like to verify that you did get the last one we sent, which was odds and ends and message number 1830.

SC Unless you say "please," we won't do it, but otherwise we got the last message.

CC Roger. Please, would you change the paper? We might have some more things we want to send you.

SC Okay. It's on - we're on our way.

SL-II MC637/2
Time: 06:18 CDT, 18:11:18 GMT
6/11/73

SC Houston, CDR.
CC Go ahead.
SC You're going to have to send me the EREP operate pad again. It got all garbled about halfway through.
CC Okay, we'll do her. Is there - is the paper reloaded? Have we got enough paper to send it now?
SC Wait a minute. He's up there loading it right this instant. Let me see.
CC Okay, we're planning on shooting that up to you at Hawaii then, Pete, if you got time enough to get it changed by then. Hawaii is still about 15 minutes away.
SC He's changing it right now. You can do it at Hawaii.
CC Okay, good show. And the only other open item I got for you this morning is a SAP update and we can get that anytime it's convenient.

END OF TAPE

SL-II MC-838/1
Time: 06:27 CDT, 18:11:27 GMT
6/11/73

SC Neil, what do you have for me?
CC Roger. Solar activity update.
SC Okay. Well, uh, yeah. Go ahead. The SPT's copying.
CC Oh, okay. Active region 37 has rotated onto the disk at 28/.9 as a large spot group. And we had a subnormal flare, which began at - in AR37 at 08:35, and filament 79 remains moderately active.
SC Copy.
CC Skylab, Houston; 1 minute till LOS; Hawaii at 43.
SC Okay, Hank. You got your teleprinter paper in.
CC Roger. Thank you, Paul.
PAO This is Skylab Control as the Skylab space station goes out of range of the Honeysuckle Creek, Australia tracking station. We'll be acquiring at Hawaii at in about 12 minutes. And the crew at this time involved in their postsleep activities after having gotten a wakeup call over Honeysuckle. We heard from Conrad and Kerwin during that pass. Did not recognize Paul Weitz in there, but we may have heard from him also. At 11 hours 32 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-839/1
Time: 06:40 CDT, 18:11:40 GMT
6/11/73

PAO This is Skylab Control at 11 hours 41 minutes Greenwich mean time. Approaching the Hawaiian tracking station, we'll be acquiring in about 2-1/2 minutes. During the day today, they'll be attempting a procedure to further troubleshoot and verify the - the performance of the primary coolant loop. Both coolant loops, primary and secondary, have been on line now since yesterday. The secondary loop, of course, had been the active loop. The primary loop brought on line after a troubleshooting procedure appeared to free the hungup temperature control valve and that loop has been performing properly ever since. One additional procedure will be tried with the primary loop today, and that will be to turn on the suit coolant circuit. The suit loop and the airlock module primary coolant loop now flow through a common heat exchanger. When the suit loop is activated, it'll put a added heatload into that heat exchanger, which in turn will signal the temperature control valve, TCVB, as it's designated. But additional cold water flow is required to handle the added heatload introduced by the suit loop. When this signal reaches the temperature control valve in the form of higher temperatures on the loop, the valve should cycle. We just had the call to the crew. We'll stand by for conversation.

CC PLT, Houston. The weather has socked in your VTS sites for today and we got an update for that pad. And I'll be standing by for a call whenever it's convenient for you to - We're replacing it with an area site.

SC Okay. He'll be with you in a little bit.

CC Okay. Whenever he's free, I'll be standing by for a call.

END OF TAPE

SL-II MC-840/1
Time: 06:45 CDT, 18:11:45 GMT
6/11/73

CC Skylab, Houston. Second GO at your EREP OPERATE pad. Should be onboard now.
SC Okay.
CC Skylab, Houston. One minute until LOS; Goldstone at 55.
SC Roger.
PAO This is Skylab Control. We'll have about a 3-minute break here as we lose acquisition at Hawaii before reacquiring at Goldstone. We will leave the line up during that period of time because of the short duration of the drop-out.

END OF TAPE

SL-II MC-841/1
Time: 06:53 CDT, 18:11:53 GMT
6/11/73

CC Skylab, Houston through Goldstone, 6 minutes.
SC Hello.
SC Henry, on this EREP stuff, can I change the existing VTS pad, or should I write it on a new piece of paper?
CC I think there's room on that. Just - all I got to do is give you a couple of times and angles for a new area.
SC Okay. Go ahead.
CC Okay. On - we want to substitute for your three sites there, 350, 351, and 353, a special 04. It's an area, and the time is 17:27, 45 degrees.
SC Wait a minute. Wait a minute.
SC Okay. Give that time again, Hank. 17:27?
CC That's right. 17:27, 45 degrees; 20:26, 0 degrees. And remarks: that's a special 04 and that's thunderstorm data. It's in your site book there: (garble) tops, towers, and clear area. And we would like you to use a DAC.
SC Okay, got it.
SC Where are these sites? Is that the group around Oklahoma City?
CC That's affirmative.
SC Now, I assume that if I can see one of those lakes or reservoirs through the clouds, no one will object if I zing it over and get 10 seconds or so on one of the sites. Is that right?
CC Stand by. Let me see what they say.
SC Okay.
CC Skylab, Houston. For info, we're going to be executing one of the patches in the ATMDC, the first of three, and we'd like to stay free of the DAS.
SC Okay, Hank. I'm free and I've got the other two strapped down.
CC Roger. And, Paul, is - You got a GO on tracking the - any of those sites if you can see them.
SC Okay.
CC Skylab, Houston. We're about 1 minute till LOS. Bermuda at 05.

END OF TAPE

SL-II MC642/1
Time: 07:00 CDT, 18:12:00 GMT
6/11/73

CC Skylab, Houston through Bermuda, 10 minutes.
SC Roger.
CC Skylab, Houston. For info, we're continuing our ATMDC work.
SC Roger.
CC Skylab, Houston; for the PLT. Just to fill you in a little bit about that VTS thing. The original sites were in the (garble) area and the groundcheck is a good bit south as you'll notice in the pad. The thunderstorm area we gave you - the target's in the Dallas area.
SC Oh, okay. Thank you, Henry. I'm glad to know that.

END OF TAPE

SL-II MC843/1
Time: 07:09 CDT 18:12:09 GMT
6/11/73

CC Skylab, Houston; about 40 seconds from LOS. Ascension at 22.
SC Roger, Hank.
PAO This is Skylab Control. We've had loss of signal now through the Bermuda tracking station. We'll be reacquiring at Ascension in about 6 minutes. The crew at this time eating breakfast. Coming up on revolution 403 and 404 we have EREP pass number 8. This will cover ground track 48 and we'll began taking data at 9:12 a.m. central daylight time at 47 degrees 18 minutes north latitude. And 126 degrees 50 minutes west, the data take ends at 9:40 a.m. at 26 degrees 15 minutes south, and 45 degrees 7 minutes west, with the pass beginning about 200 miles northwest of Portland Oregon and extending across the continental United States, the Gulf of Mexico, the Caribbean, Columbia and Brazil and ending about 200 miles south of Sao Paulo, Brazil, a track of about 7700 miles. The crew is scheduled to use the visual tracking system to obtain data over Oklahoma City. However that site is socked in by weather. They have been given an alternate target using the VTS, the visual tracking system, which is thunderstorm buildup around the Dallas area. At 12 hours 17 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-844/1
Time: 07:20 CDT, 18:12:20 GMT
6/11/73

PAO This is Skylab Control, 12 hours 21 minutes Greenwich mean time, and 1 minute away from regaining contact with Skylab through the Ascension tracking station. Coming up at 7:30 central daylight time, we have a replay of yesterday's television of the M171 experiments. Science Pilot, Joe Kerwin, riding the bicycle ergometer as part of the metabolic analysis conducted inflight. This replay will run for about 19 minutes - 19 minutes 30 seconds, to be exact.

CC Ascension 10-1/2 minutes.

SC Roger, Houston.

PAO Hank Hartsfield putting in the call and Pete Conrad acknowledging through Ascension. We'll follow the conversation live from this point on.

SC Okay, Houston. I was just checking this teleprinter. Nothing printed on this - Let me doublecheck and make sure the paper is in right.

CC Okay.

SC Hank, the paper's not in right. Just a minute and I'll get it in and we can - you can start sending the new updates.

CC Okay. Understand the paper is not in right. Boy; that's a relief.

CC Skylab, Houston. We just fired that load out to Ascension and standing by. As soon as you tell us you got the teleprinter squared away, we'll retranscribe it.

SC Okay.

CC And, Skylab, Houston. For info, when you bring up the star tracker this morning you'll have to ENABLE star tracker control and alter the plane update. And I got the DAS entries if you need them.

SC We got them.

SC Go ahead and send it, Henry.

CC Okay. We'll fire it up again.

SC Hold it 1 minute. Hold it just a second.

CC Okay; will do.

SC Okay, Henry. Send away.

CC Okay.

SC Copying it just fine.

CC Roger. Copy.

END OF TAPE

SL-II MC-845/1
Time: 07:28 CDT, 18:12:28 GMT
6/11/73

PAO This is Skylab Control. We're ready now to begin with our replay of yesterday's television of the bicycle ergometer, experiment M171.

PAO Science Pilot, Joe Kerwin, is the test subject for this experiment.

CC Skylab, Houston. We're about 1 minute from LOS. Carnarvon will be up at 55 and we - Your EREP pad should be there.

SC Okay. Thank you.

PAO Science Pilot, Joe Kerwin, on the bicycle ergometer at this time, with Pilot, Paul Weitz assiting him as he attaches the harnesses and begins preparations for riding the bicyle ergometer.

PAO In our television replay at this time, Joe Kerwin appears to have gotten himself harnessed up with the assistance of Paul Weitz. The procedure on the ergometer is for Kerwin to pedal for 5 minutes with no workload, then for 5 minutes at a workload of 75 watts, which is about a tenth of a horsepower, another 5 minutes at 125 watts. And finally, 5 minutes at 175 watts, which requires an energy output of about a quarter of a horsepower. During this graduated series of workloads, measurements will be taken on oxygen consumption and CO2 carbon dioxide output in order to analyze metabolic efficiency. Also, blood pressure is monitored constantly with the cuff attached to Kerwin's left arm - upper left arm. And a vectorcardiogram reading of heart activity is taken during the activity.

PAO At the present time Kerwin is at rest and now starting to pedal. The at-rest time is to allow his heart rate to stabilize. Following the exercise period, he will again rest for a specified period of time, allowing a determination of how long it takes for the cardiovascular system to return to the normal rest level.

PAO You'll note in the picture that Joe Kerwin is holding on to support above his head. Normally, or prior to the mission, it was felt that crewmen would need to be restrained with straps in the bicycle ergometer. The purpose for this restraint system was to keep most of the workload on the legs, so that the arms did not have to exert a great deal of effort to hold him in the saddle and on the pedals in zero G; however, on operating with the bicycle ergometer in zero G, the crew found that the straps, the harness was more of a hindrance than a help and the procedure that you see Kerwin using is the one that they have elected to use and they find to be more effective than using the harness.

PAO Paul Weitz is preparing to move the camera in now for a closeup of the pedal action, moving the

rotating litter chair out of the field of view.

PAO A couple of other points of interest. You'll note around Kerwin's backside and on his front chest, three sensors attached. These are part of the array of sensors which provide inputs to the vectorcardiogram and in turn which provides the three-dimensional plot of heart electrical activity during this experiment. There's also a thermometer which Kerwin will place in his mouth at the end of this run. Also that thermometer is used to measure body temperature at the beginning of the run, so you get a temperature profile at the beginning and at the end of the exercise profile. Kerwin's feet are locked to the pedals with the triangular shoes so that he can get - apply force to the pedals for the full rotation, 360 degrees. And we see him alternating back and forth between restraining himself by hanging onto the handlebars and reaching up over head into the overhead structure.

END OF TAPE

SL-II MCC46/1
Time: 07:49 CDT, 18:12:49 GMT
6/11/73

PAO This Skylab Control. We're now 34 seconds to reacquiring at the Carnarvon, Australia, tracking station. During the television replay, we saw the - what is probably the only fully automatic metabolic analyzer unit in existence. Joe Kerwin, taking his morning constitutional. The ergometer serves a two-fold purpose; one to obtain essential data on the metabolic efficiency of the crewmen.

CC We're AOS over Carnarvon for about the next 9 minutes and we'll be using the DAS to implement the last program load in the ATM.

SC Okay.

END OF TAPE

SL-II MC-847/1
Time: 07:58 CDT, 18:12:58 GMT
6/11/73

CC Skylab, Houston. My last call was a mistake; and we're not working on your computer right now. We're going to save that for stateside, and the DAS is yours, if you need it.

SC Roger.

CC And for the CDR, I don't know if you were told about it last night, but Richard Beatty won the Alamo 500 yesterday.

SC Yeah, I heard that. Buddy Baker was second. That's - that's great.

CC Roger. Also, this morning the guys are rolling out SL-III at - down at the Cape.

SC Very good. They still go for what? July 27th?

CC Affirm.

SC Gives us just enough time to clean our gear out of the trailers and turn it over to them.

CC Roger.

SC Captain B busy?

SC Oh, naturally, naturally.

SC Hey, when they decide to cook up whatever the extra power is, how about letting us know what their scheme is.

CC Pete, I didn't copy all that you said. What about the extra power?

SC Yeah, I gathered they were working on some scheme to get more juice in here, and I was curious when they settle on one, what it is.

CC Roger. I don't know. I think - Probably you guys solved most of that for them.

SC Oh, okay. Well, Rusty was talking about looking at that umbilical pole on the side to see if it was okay. And I thought they were still thinking about bringing up something else with juice in it.

CC I think they're still looking at that. But I don't believe any firm decision has been made on it yet. And if P.J.'s listening, I think he's probably familiar with this solenoid vent thing that we're going to be doing a little bit later over the States. But it's in the SWS Systems on page 4.4. He might look at it and refresh his memory on it before we start doing it.

SC Okay. Thank you.

CC Skylab, we'll be LOS in 1 minute; have you again at Guam at 13:10.

SC Okay.

SL-II MC-847/2
Time: 07:58 CDT, 18:12:58 GMT
6/11/73

PAO This is Skylab Control at 13 hours 6 minutes Greenwich mean time. We've lost contact through the Carnarvon, Australia, tracking station. And we're scheduled to reacquire at Guam in 4 minutes 40 seconds. Here in Mission Control, we've had a shift handover. Flight Director, Milton Windler, and his team of flight controllers have taken over from Neil Hutchinson's team. And our capsule communicator, CAP COM, at this time is astronaut Robert Crippen. There will be a Change-of-Shift briefing. We estimate that that will occur at about 8:45 central daylight time in the Johnson Space Center briefing room. Again, that's 8:45 a.m. central daylight time, our estimated start time for a Change-of-Shift Briefing this morning. This is Skylab Control, Houston.

END OF TAPE

SL-II MC-848/1
Time: 08:09 CDT, 18:13:09 GMT
6/11/73

CC Skylab, Houston. We're AOS over Guam for 7 minutes.
SC Roger, Houston.
SC And, Houston. We coming up over the States next? We're all ready to do that SUS 1 checkout for you.
CC Okay. That's affirm. States next. Goldstone's about 13:34.
SC Okay. We could probably give you the checkout then. It's all rigged and ready to go. And I'd like to get a pass back down there again. I didn't want to pull all the umbilical out of the (garble), and it's running through the MDA forward hatch. I don't want to leave it there for a long time.
CC Roger. Copy.
SC Also, while I'm pushing you guys again, I'd like to clean up the (garble). We've got those hoses running through (garble).
CC Okay. Having a little problem trying to copy there, Pete. Understand you'd like to get all those hoses cleaned up. That's our intent here to - as soon as we get the status of these primary - primary loop checked out.
SC Okay. Very good.
PAO This is Skylab Control. We're up live now over the Guam tracking station. About 5 minutes 40 seconds remaining in this pass.

END OF TAPE

SL-II MC-849/1
Time: 08:14 CDT, 18:13:14 GMT
6/11/73

CC Skylab, Houston. We're 1 minute from LOS. Coldstone 13:34. 13:34.
SC 13:34. Roger, Bob.
SC Hey, Crip, what section of the book did you say they talked about that solenoid vent port?
CC It was SWS System Schematics on 4.4. That's just a drawing of it. I just wanted to make sure you were familiar with the - their four valves, two series parallel.
SC Okay. Which ones can you say - show yield 1 and 3 open, huh?
CC That's affirm.
SC Are they the same leg or different legs?
CC They're parallel, if you look at the thing on 4.4, it'll be obvious.
SC Okay.
SC Hey, Crip, are you still there?
CC Affirmative.
SC To do this cross pointer stuff on the white light coronograph, I've got to be as high as it can, right?
CC I'll check that. We're probably going to go LOS before I can do it, but I'm pretty sure you're correct, Pete.
SC Okay.
PAO This is Skylab Control. That's all through Guam for this revolution. We'll be up at Coldstone in 15 minutes. Skylab currently on its 402nd revolution of the Earth, and on this revolution the major activity aboard the space station is operation of the Apollo telescope mount. We expect to be getting ATM video during our stateside pass this revolution. And we expect that video will be coming in at 13 hours 34 minutes - 13 hours 34 minutes Greenwich mean time. Our Change-of-Shift Press Briefing, with Flight Director Neil Hutchinson, will begin 15 minutes early. That briefing will begin at 8:30 central daylight time, in the Johnson Space Center briefing room, room 135. Again, that's 8:30 a.m. for the Change-of-Shift Press Briefing with Flight Director Neil Hutchinson.

END OF TAPE

SL-1I MC-850/1
Time: 08:31 CDT, 18:13:31 GMT
6/11/73

PAO This is Skylab Control at 13 hours 32 minutes with Skylab coming up on a full stateside pass. Goldstone, Texas, Mila, and Bermuda covering this revolution. We also have a change-of-shift briefing scheduled to begin shortly in the JSC News Center briefing room. We expect that that briefing will begin before this stateside pass is completed. In which case, we'll record the conversations with the crew during the pass for playback following the press confeience. And we're about 1 minute away now from the predicted acquisition time.

CC Skylab, Houston. We're AOS over the States for a good long pass for about 15 minutes.

SC Okay, Houston. Your TC down-link is coming to you and it's got H-Alpha 2. The SPT is standing by for the SUS pump. And the PLT is at your service (garble).

CC Roger, Pete. I'm still having trouble trying to read you. I understand everybody is standing by. And for your information we are executing that load in the TMDC, so if you'd stay off the DAS for us, we'd appreciate it. And we'll see if we can go into these other procedures.

SC Okay. How do you read me now?

CC That's much better, much better.

SC There's H-Alpha 1 coming to you, Houston. I hope you read all right.

CC That's great, Pete. Okay, very good. If we could get Paul to verify for us that he's removed the cap and he's ensured that the circuit breakers are closed on 202 for that solenoid vent valve, we'd appreciat it.

SC He's on his way.

SC That's verified, Houston.

CC Okay. We got you. We're reading you very good right now.

SC Okay, (garble).

CC (Garble)

CC Okay. And for Joe, we're standing by. You can go ahead and initiate your coolant loop procedure. And we're just going to monitor you on that.

SC It works now, (garble).

CC Thank you.

SC That's your whitelight coronagraph.

CC That's fantastic. Can even see that streamer coming over the east limb.

SC Yeah.

SC And I have a IN and OUT on the flare there, Houston; 650.

CC Roger. Understand. And for PJ, we're opening up all four valves. 1, 2, 3, and 4 at this time.

SC Want us to go after the flare, Houston? It's 690, 700.
CC (garble) Roger. Copy; 700. We'll see if we can get at them to say something.
SC Holy Christmas! Look at your TV. You guys opened a valve and look at all this junk that's flying by the TV.
SC Yes. The valve's flowing, Crip.
CC We copied, and we understand the valve is flowing.
SC Yes, it sucked my paper right out of my hand.
CC (Laughter) Okay. It flows very good then, huh?
SC Looks like the 4th of July on the white-light coronagraph.
CC Okay. We'll be commanding 1 and 3 closed at this time.
CC Okay. They should be closed up now.
SC Okay. All flow has stopped.
CC Roger. Understand all flow has stopped. We'd like to - We suspect there may be a small leak, so if you'd examine that real carefully for us, we'd appreciate it.
SC Okay.
CC Okay, PJ. We got a closed indication this time, so it looks good from here.
CC Okay, Paul. If you can reverify that there is no flow, we'll go ahead and press on and shut the others.
SC Okay. On the other side of the dome - the speaker boxes, I get no indication of flow holding the piece of paper on there for 20 seconds.
CC Okay. We copy and it looks good to us. We'll go ahead and close the other valve - break. Pete, you're up in the northern horn right now, and that's the reason you're getting the flare indication. So we do not want you to press with a flare JOP.
SC I'm not.
SC There's your XUV MON.
SC Houston, you want me to cap that vent port, or leave it open now?
SC Hooked up your integration.
CC Paul, we'd like to go ahead and leave that cap off now. We've got positive indication all valves are closed.
SC Well, you got another data point that

you weren't aware of. Where I cleaned the solenoid vent port screen, I didn't put the cap back on. So it's been off for about a week and if you haven't had any leak in that time, I guess it's not leaking.

CC Okay; very good.

SC We got something else for the thermal guys to look at, Bob.

CC What's that?

SC In cleaning up, we kind of like to get rid of this portable fan if we can. And someone jostled it sometime yesterday or last night, so all night long the portable fan was not blowing on the heat exchangers screen. If it didn't make any difference, how about if we get rid of that portable fan, too? Think about that for a while, please.

CC Okay. EGIL's thinking about it. That's sneaky.

SC Yeah, we'd really like to clean this place up. We got hoses running through hatches and lines, and it's very bad. I don't like it. So anything you can do along that line, we'd appreciate.

CC Okay. We appreciate that, Pete. I guess that fan and your SUS 2 are running down to the water tank are your main problems right now. Is that correct?

CC I'm informed that fan was for your crew comfort, and if you want to take it off, that's - you may so do.

SC Roger.

END OF TAPE

SL-1: MC-851/1
Time: 08:40 CDT, 18:13:40 GMT
6/11/73

CC And Skylab, we're coming up over MILA pass there and we should be doing a data recorder dump.

SC Hey, Houston; I think you guys have got to put those horns in the anomaly passes, all of them on our pads. If that ever happens out of station contact, we're going to come over the hill minus about 300 frames of film.

CC Okay. We copy that.

PAO This is Skylab Control. We have about 10 minutes remaining in this stateside pass. However, the Change-of-Shift Press Conference is ready to begin at this time. We'll tape any remaining conversation with the crew on this stateside pass for playback following our Change-of-Shift Briefing. At this time we'll switch to the Johnson Space Center briefing room for the Change-of-Shift Press Conference.

END OF TAPE

SL-II MC-852/1
Time: 09:11 CDT, 18:14:11 GMT
6/11/73

PAO This is Skylab Control at 14 hours 12 minutes Greenwich mean time. During the Change-of-Shift Press Briefing, we accumulated a little over 6 minutes of taped conversation with the crew over the statesside pass and down over Ascension Island. During that conversation and during that period, we successfully conducted checks of the suit umbilical system loop in conjunction with the primary coolant loop. And also successfully completed checks of the orbital workshop vent valves, and we'll replay that tape for you now.

CC Skylab, Houston. We need to do another adjust on our REG ADJUST POT. If anybody's available for that, I'd appreciate it.

SC Go ahead.

CC Okay. What we want to do is take BUS 1 and BUS 2 on the REG ADJUST and go 5 amps toward the ATM on both. And after we do that, we want to adjust REG ADJUST 2 to equalize PCG TOTAL.

SC Okay.

CC We do copy that they're pretty close to being equal right now, though.

SC How does that look, Houston?

CC Stand by 1, Paul.

CC EGIL says they look beautiful.

SC Okay. And, Houston, the SUS pump is on PRIMARY for its 15-minute ride now.

CC Okay; we copy.

CC Okay. And, Joe, for your information, the primary loop is modulating properly, and it looks real good right now. We do want to go ahead and leave it on for 15 minutes, as called for.

SC Okay. Sounds good.

CC Skylab, Houston. We're about 30 seconds from LOS. And, Joe, what we'd like to do is just to go ahead and leave that pump on until Ascension, which is at 14:02. I'll give you a call there when to shut it down. And if for some reason we don't pick you up on void, you can go ahead and shut it down on your own. Also, we'll be doing a data recorder dump at Ascension.

SC Roger. (Garble) all your transmission, but I understand you're up, and you're going to dump the data recorder at Ascension.

CC That's affirmative. And we also wanted Joe to go ahead and leave that pump on, and - so we can watch him when he turns it off; so we'll like him to leave it on until our voice call at Ascension. If, for some reason, we didn't get your voice there, you can shut it down on your own.

SC Okay. He's putting on channel B ATM (garble). Maybe you can look at it. We had a - Pete was rolling the canister and he got a big slosh in 28. You might listen to B when you get it from this period and see what he's got to say.

CC Okay.

SC Also, M509 activation is complete. We did not take any movies of it, Houston.
CC Okay. Thank you very much. I'a sure SL-III would appreciate it.
CC Skylab, Houston. We're AOS over Ascension for about 5 minutes. And we will be doing a data recorder dump.
SC Roger, Houston.
CC And, Joe, you can go ahead and turn off SUS 1 and take the fittings off.
SC Okay.
SC Hey, Houston.
CC Go ahead.
SC You were in the LOS, I guess, before you copied my last on M509. I was saying, "We did not activate 509 just out of the kindness of our hearts for Captain Bean and his motley bunch. We are not adverse to taking us for a little spins from these things, and you may see your way free to slip in there."
CC Okay. We so note. Paul, while I got you here, could I tell you something about your SJ09 operation a little bit later on?
SC Sure.
CC What we'd like to do at that time that you're scheduled to go set it, will you just open the detector package up, set the Beta angle in that we've given you, and turn the power switch off so that we'll just leave it open.
SC Okay. So despite all our preflight planning about taping it to the wall before 10 days and stowing it in the vault after 10 days, we'll just leave it in its frame open for the rest of the flight at the appropriate Beta angle, I guess.
CC That's what it looks like they're thinking about doing now. You'd be surprised how things can change in real time.
SC Oh, yes. I'm glad to see all is flexible. Okay.
SC Okay, Houston; SUS 1 is turned off and reconfigured to its normal configuration.
CC Okay, Pete. Thank you. And, Skylab, for your information on that primary coolant loop, everything looks real good to us right now. And I guess the current thinking is that we definitely want to avoid the EVA mode. So, I guess right now we are trying to pursue getting the secondary coolant loop checked out. Also, we have completed that data recorder dump.
SC Okay.
CC Also, Skylab, we are changing our mode of operation on the recorders slightly. We're not going to be continuously recording. So anytime you want to put a voice

SL-II MC-852/3
Time: 09:11 CDT, 18:14:11 GMT
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on, you will have to initiate it. A systems anomaly on.

SC You're not trying to fool with the cassettes. You're not going to run the data recorder continuously?

CC Okay, Pete, basically - you're sort of unreadable then right now. I'll tell you - we're going LOS here in about 15 seconds. We'll see you at Carnarvon at 14:32.

SC Bye.

CC Bye.

PAO That completes our replay of accumulated tape conversation through the continental U.S. and Ascension pass. I only have about 13 minutes remaining before we once again acquire the space - spacecraft at Carnarvon. Now in the 403rd revolution and coming up on stateside acquisition at Goldstone we'll be hearing the crew again in the midst of an EREP pass. This will be Earth Resources Experiment Package pass number 8. And, we just received a report from the EREP officer who says everything is ready to go. It looks very good. The weather is cooperating throughout most of the track and all of the instruments are configured and ready for that EREP pass. Recapping some of the conversation from the previous passes, the check, as you heard on the primary coolant loop with the SUS loop activated, the suit umbilical system loop checked out okay. A procedure apparently developed that allows the crew to bring on the suit coolant loop without causing the temperatur control valve to swing full open or into the maximum cold position. Also, you heard the comment that a procedure is being worked out to further troubleshoot the secondary coolant loop, which continues to operate, but in a cooler-than-desired mode. The temperature on that secondary loop continues to run right around 40 degrees Fahrenheit. The primary loop continues to hold in very close to the desired 47 degrees coolant temperature At 14 hours 21 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-853/1
Time: 09:30 CDT, 18:14:30 GMT
6/11/73

PAO This is Skylab Control, and we're about to pick up radio communication with Skylab through the Carnarvon, Australia, tracking station on the 403rd revolution. And we'll stand by for that communications with the crew. During the previous pass over Vanguard, and at the end of the previous stateside pass, the troubleshooting as we mentioned with the primary coolant loop, was conducted successfully. And the essential outcome of that test with the primary coolant loop was to verify that the configuration using the suit umbilical system exploring it through the heat exchanger will be acceptable. This is an acceptable EVA mode. The coolant loop has actually two heat exchangers built into it. The second normally not used, except for peak heatload conditions during an EVA when the suit umbilical systems are dumping the accumulated heat from metabolic activities of the astronauts into the coolant system. However, experiments - experience has shown that a single heat exchanger will be adequate, even for EVAs. The desire not to use the second heat exchanger centers around the belief that this heat exchanger is a source of contamination into the primary coolant loop. The contaminant is known as getting into the temperature control valve and causing the valve to stick. The tests we've run today tend to verify this hypothesis, and that is the basis for [illegible] comment to the crew at the end of the last pass that we will definitely want to avoid the EVA mode. The EVA mode is a mode that flows coolant through both heat exchangers by avoiding that mode during an EVA and using only the one heat exchanger, which appears to be more than adequate. We feel we can avoid the problem of the contamination in the primary coolant loop and avoid any further problems with the valves hanging up in this loop. We show that we've acquired signal at Carnarvon. It is will be a 9 minute 40 second pass. We'll stand by for the call to the crew.

CC [illegible]Skylab, Houston. We're AOS over Carnarvon for 9 minutes.

CC [illegible]Skylab, if you're interested, I could give you a rundown on what the cloud coverage is going to be on your EREP pass coming up.

SC Go ahead.

CC Roger. Unfortunately, we [illegible] fortunately, depending on what kind of data you're after, we've got a pretty cloudy day out all across your pass. Coming up at Washington to Idaho, it's going to be scattered to broken, and from Idaho to Colorado it's broken to overcast. And it starts clearing up somewhat there and breaks out fairly clear over the Oklahoma panhandle. Then it starts to look

back fa and by the time you get to Texas, we're basically overcast here, and that's going to be the same condition coming all across the Gulf, Caribbean, and northern South America. Central South America is fairly clear though.

SC Okay.

CC Also, I wasn't making myself very clear awhile ago on talking about the recorders. We are not continuously running the data recorders, so if you do see some system anomaly that you think we ought to get data on, would you go ahead and initiate the recorders for us, please?

SC Roger. Understand. What I didn't understand though, Crip, was what you said before that about the SUS pumps. You said you didn't want to get into an EVA, so you weren't going to do what?

CC All I was saying there was that we did not want, apparently, to get back to that EVA mode on the primary coolant loop because we believe that is what caused our initial problem with it. And that will not be coming up, of course, until we do get down to the EVA, and we'll figure out exactly what we want to do there.

SC But you probably don't want to use SUS 1 during the EVA. Is that right?

CC No, that is not necessarily true.

SC Okay. Well, let us know.

CC Okay. We would probably be operating in the bypass mode rather than EVA.

SC Crip, CDR.

CC Go, CDR.

SC Okay. I've done the sensitometry advance, besides 40 frames and about seven more on there. I had about three half lights: 3, 5, and 6. I had 3, 4, 5, and 6. Four went out; 3, 5, and 6 stayed on. I have marked the film, checked it, and it is, in fact, moving. I've done all those good things, and in the process, shot up three single frames and then after ascertaining that everything's moving, I have sequenced four more through, so I've actually used 47 frames on the 6th magazine, and I still have half lights 5 and 6. And I suspect it's the same as last time, and they'll eventually disappear.

CC Okay. We agree with that, Pete, and we consider it's good. Go ahead and press on.

END OF TAPE

SL-II MC-854/1
Time: 09:38 CDT, 18:14:38 GMT
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CC We agree with that, Pete, and we consider it's good. Go ahead and press on.
CC Skylab, Houston. We're 1 minute from LOS. We'll see you again at Guam at 14:46[illegible] 14:46.
SC Okay. (garble) maneuver time. Can you take a quick look at it and verify it?
CC We have verified it. It's good.
SC Okay.
CC Skylab, Houston. We're AOS [illegible] more over Guam at - for 9 minutes.

END OF TAPE

SL-II MC-555/1
Time: 09:46 CDT, 18:14:46 GMT
6/11/73

CC PLT, Houston. Do you have a moment to talk about your VTS stuff?
SC Talk about what?
CC About your VTS targets. That weather that they had and that they removed your initial site to - moved south, and they would like you to go back to your original pad.
SC Okay. I'll cross out the crossouts, huh?
CC Cross out the crossouts. That's affirmative.
SC We're getting used to that. All right. We got it.
CC Skylab, Houston. We're 1 minute from LOS. We'll have you again at Goldstone at 15:11; 1511. And we copy you are in - on route to Z-LV.
SC Yeah, it looks like it here, anyway.
PAO This is Skylab Control. As Skylab went over the horizon at C am, we could see from the telemetry data on the ground that the vehic was maneuvering into the proper attitude for the EREP pass coming up over the United States, down across the Gulf of Mexico, and out on across South America and Brazil. They'll be in the Z-local vertical, which boresights the sensors at the groundtrack beneath them. And we have 13 minutes 40 seconds now until we reacquire at Goldstone. At 14 hours 57 minutes, this is Skylab Control.

END OF TAPE

SL-II MC-836/1
Time: 10:10 CDT, 15:10:10 GMT
6/11/73

PAO This is Skylab Control at 15 hours 10 minutes. We'll be hearing from the crew shortly, coming up over the Goldstone tracking station, at which time they should be in an EREP pass. Pass number 8, which - -

SC - - bunch of it is south of here.

PAO And we're picking up the VOX communications from the crew now.

CC Got you in voice contact, guys.

SC Okay.

SC Hoo haw. How're you reading the CDR VOX?

CC Loud and clear.

SC Okay. PREOPERATE configuration has been verified and we're ready to go.

CC Copy.

SC I got a note for the EREP training people, and the followon crews, is that the gimbal drift in the VTS sphere is such that it tends to drift up and to the left.

SC How's the Houston weather, Crip?

CC Not too hot. A little bit rainy this morning.

SC Oh.

SC It's not supposed to do that in the summertime.

CC Right.

SC It looks like quite a bit open along your track (garble).

SC Okay.

SC What's the temp?

CC Oh, about 80 degrees.

SC Coast in a minute.

SC Okay, 15 seconds. EREP start.

SC Five, 4, 3, 2, 1, MARK, EREP START. 94, MODE MANUAL.

SC SCAT's ON, the RAD's ON. MARK, ETC to AUTO. MARK, S190 to AUTO.

SC Oh, here's a nice mountain.

SC 92 to MODE READY.

SC Looks like Mount Hood.

SC Maybe not.

SC SCAT, STANDBY; RAD, STANDBY; MODE IN-TRACT CONTIGUOUS; PITCH is 0.

SC Man, is it clear around those mountains today. Hoo haw.

SC And 92, MODE CHECK. RAD's ON; SCAT's ON. And I need an AUTO CAL on my MARK, please.

SC Okay.

SC MARK, AUTO CAL. ALTIMETER to STANDBY. POLARITY to 2 and 15:05.

SC For simulator people information, it takes 3-1/2 seconds for the READY light to go out on S191 when you hit AUTO CAL.

SC And, also, I have on S190, the 5 and 6 malf flights. But I believe everything's running all right.

END OF TAPE

SL-II MC-857/1
Time: 10:15 CDT, 18:13:15 GMT
6/11/73

SC POLARIZATION is 2.
SC Hey, Crip, I had to do a 192 alignment tweak before the run, mainly because I did one after the run yesterday. The details are on B channel from yesterday and on the tape from today.
CC Copy.
SC ARC INTERVALOMETER to A. ETC to STANDBY. STANDBY, ETC to go back to AUTO.
SC ETC, AUTO.
SC Also, for information, it's hard looking out at 45 degrees forward. You look through a lot of atmosphere. Targets in detail.
SC POLARIZATION, 4. I got a READY light on 191; Bravo 7 is 31 percent.
SC Seventeen shutter speed to MEDIUM.
SC 92 to READY.
SC And I got Fort Tubb.
SC MARK. 17:50, POLARIZATION at 3.
SC SCAT, STANDBY; RAD, STANDBY; 92, CHECK.
SC ALTIMETER is ON.
SC IN-TRACK NONCONTINUOUS, POLARIZATION 5.
SC Okay, Houston. Got the following sites back there. Got (garble) reservoir 350. I got 351; I got 352; I got 353; and I got 356.
CC Copy.
SC F190 READY light is out.
SC ALTIMETER to STANDBY.
SC SCAT's ON. RAD's ON.
SC Okay. For special 01, all you're getting is clouds, so far, instead of the Gulf. - -
SC (Garble) the ALTIMETER. STANDBY on 190.
SC Telemeter my intervalometer is 18 and check the frames are 81.

END OF TAPE

SC (Garble) maneuver out.
SC Huh?
SC 1540.
SC (Garble) 190 power off and back on again to get rid of those - (Garble)
SC Well, I - I haven't started to run it yet. It starts to run at 23:56 here. (Garble) enough film on there.
SC You still there, Houston?
CC Affirm. - -
SC For whatever reason, we seem to have a - consistently in the past on these VTS sites, we've been getting to them 2 to 3 seconds before the pad says we will.
CC Okay. We've still got about 4 more minutes.
SC 90 is in MODE AUTO. ETC is STANDBY, Joe.
SC (Garble)
SC Okay. And the SCAT's in STANDBY and RAD to STANDBY; 93A is ON; MODE TRACK, CONTIGUOUS; PITCH, 30; POLARIZATION is 4. Okay, after I got all the film wound on those cameras, I don't have any malf lights now, Houston. I think you just about float in there when they're first wound on.
CC Copy.
SC MARK. Intervalometer to 8. 92 going to MODE READY on my mark.
SC MARK. 92 to MODE READY. ETC to AUTO, Joe.
CC One minute until LOS. Vanguard at 37. Copy. Your maneuver time looks good for going out.
SC Okay.
SC What you got down there?
SC Looking at down there?
SC MODE CHECK on 92.
PAO This is Skylab Control with loss of signal now through Mila. And Skylab will continue on down across South America, out over Brazil, and continue taking the EREP data until about 200 miles south of Sao Paulo, Brazil. CAP COMM, Bob Crippen, advised the crew before starting this pass that there would be considerable cloud cover, ranging from solid to broken along the track. And the crew confirmed that. Paul Weitz, I believe it was, mentioned that they were getting an awful lot of - an awful lot of clouds. One of the alternate targets to be gotten through the visual tracking system due to heavy cloud cover over the primary target near Oklahoma City was thunderstorm buildup where severe weather is shown in the Dallas area. The total EREP 8 track was about 7700 miles, or will be about 7700 miles on completion. And among the targets are the Cascade Mountains, also forest inentory in Colorado, and the storm conditions in the Dallas area. They also hope to collect data on sea surface and wind conditions in the Gulf of Mexico, as well as information to be used in crop inventories in Columbia and resource studies in Brazil. And, hopefully, the weather will be clearing as they move down across Brazil. We have

SL-II MC-858/2
Time: 10:21 CDT, 15:15:21 GMT
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about 6 minutes until regaining radio contact through the tracking ship, Vanguard, off the coast of South America. At 15 hours 31 minutes, this is Skylab Control.

END OF TAPE

SL-XI MC859/1
Time: 10:35 CDT, 18:15:35 GMT
6/11/73

PAO This is Skylab Control. One minute away from acquisition through the tracking ship, Vanguard. And we expect to get the conclusion of EREP pass number 8 during this period of acquisition.

CC Skylab, Houston. We're AOS over the Vanguard for the next 7 minutes.

SC Roger, Houston.

SC MARK. 38:02; POLARIZATION, 1. MODE, READY on 192. MODE, AUTO on 190; EPC to AUTO, Joe.

SC J., would you check the master alarm?

SC Okay, it's probably starting.

SC CMG set, okay.

SC The thruster's inhibited, or enabled? -

SC Enabled, okay?

SC 53 and it's SCAT to STANDBY. 55 and RAD to STANDBY; 39:01 and S192 to STANDBY; 39:07, READY out, and it's out, 39:13. MARK. ETC, STANDBY; VTS, AUTO CAL; and 39:25 in a MODE, MANUAL on 194; MODE, MANUAL, 31; the SCAT's OFF; RAD's OFF; standing by for 15:40 there, my boy, for the start of the S1 maneuver. Okay, you got it.

SC Saturated in Y, that what it, huh?

SC Uh, huh.

SC Very good.

SC And we commenced that SI maneuver on time.

SC 40:25, 94 is OFF. MARK. 41:90 to STANDBY. Stand by for 41:53 for a READY on S191.

SC Yeah. Got a READY on - on a 91 and MARK EREP stop and we got - there's a perfect pass for you. How about that? Okay, Houston, you still with us.

CC That's affirm. That's a very nice EREP pass.

SC Okay, we're going off VOX and going off A RECORD, back to B RECORD.

CC Pete, did you give us B7?

SC Okay, Crip. That's 30. Right on the money.

CC Copy.

CC For your info, over the states on the next pass, we're going to be troubleshooting the secondary coolant loop. We'll give you the details on it there.

CC Skylab, Houston. We're 1 minute from LOS. We'll see you again at Goldstone at 16:48, 1648. We will be doing a data recorder dump at that point. And regarding that troubleshooting procedure for the secondary coolant loop, that's primarily a ground-initiated procedure. We'll need you for a couple of steps and we'll tell you about it.

PAO This is Skylab Control, at 15 hours 45 minutes. Out of range now of the Vanguard tracking ship.

SL-II MC859/2
Time: 10:35 CDT, 18:15:35 GMT
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And about 1 hour and 2 minutes away from reacquiring at Goldstone, California. During that stateside pass, as you heard CAP COM, Bob Crippen, advise the crew, we'll be doing some troubleshooting on the secondary coolant loop. The primary loop now apparently operating normally. And the procedure that will be used with the secondary loop similar to that followed with the primary loop when it was reactivated. That is, to turn on both pumps that flow coolant through the loop; the loop currently operating with a single pump. It's hoped that when the second pump is turned on, the sticky valve that is controlling the flow in the loop and mixing the hot and cold coolant to maintain the desired temperature, will unstick itself as happened in the primary loop and the valve will begin controlling at the desired temperature. The desired temperature being around 47 degrees Fahrenheit. And that is the temperature at which the primary loop has been cool - operating since the same procedure was used or similar procedure was used on that loop to free up the sticky temperature control valve. If the temperature begins to drop on the secondary coolant loop as the flow is increased, the loop will be shut down and allowed to warm up before the procedure is - is repeated. The feeling is that the secondary loop is operating at a - at an equilibrium which is arrived at by adding a heat sources, namely the liquid cool garments - liquid cooling garments, from the EVA suits used in orbit - used by the crew in conjunction with the EVA. These loops are connected to the liquid cooling garment. The garments then are draped over a water tank in the area of the dome where a fair amount of heat is picked up on the sunside of the vehicle. The side of heat flowing into the secondary loop is allowing it to maintain an equilibrium temperature around 50 degrees. This temperature as felt is - is a status of equilibrium rather than a - a temperature that's being controlled by the valve itself. Consequently when the flow is increased we could see a - a fairly rapid drop in temperature on that loop if the valve does not begin to control properly. At which point as mentioned the loop will be shut down. The primary loop would continue to be the - the active coolant loop; and as the secondary loop warmed up, the procedure of doubling up on pumps to increase the flow and hopefully free that valve would be tried again. At 15 hours 49 minutes, this is Skylab control.

END OF TAPE

SL-II MC-860/1
Time: 11:45 CDT, 18:16:45 GMT
6/11/73

PAO This is Skylab Control about 1 minute 30 seconds from reacquiring Skylab through Goldstone, California. The spacecraft now in the 405th revolution of Earth. And this will be our last stateside pass for today. The EREP officer reports that the EREP Pass from the previous revolution appeared to be highly sucessfull, this was a report that was confirmed by the crew. A little later on this afternoon we will be getting a satellite weather pic ure of the ar's at the time the pass was made and from that we'll be able to confirm the coverage and what areas that were in fact clear and which were cloud covered. But the preliminary indication is that all equipment worked properly and that we got a lot of good data on that EREP Pass. During this stateside pass we will be troubleshooting the secondary coolant loop, airlock module secondary coolant loop. The procedure will be similar to that followed in remeding the problem on the primary coolant loop. We'll be commanding both pumps on line in an attempt to free temperature control valve that appears to be hung up by some contamination.

CC We're AOS over Goldstone for about the next 13 minutes. 13 minutes.

SC Roger, Houston.

CC Roger. And we're going into this trouble-shooting procedure on the secondary coolant loop and the first step that we're going to be doing involves just turning on the secondary pump and watching it for a while.

SC Okay.

CC Skylab, after about 5 minutes, after we've turned this pump on, I'll probably be requiring somebody to go up into the airlock module to turn off SUS 2 and to insure that one of the caution and warning parameters is indicated. Looking at the schedule, Joe's probably the most likely guy, if he can get away. I'll call in.

CC We're currently showing a flow rate of about 214 or 15 pounds per hour on the seconday coolant loop. When the additional pump is brought on line, we'll expect that flow rate to increase something over 400 pounds per hour. And it has just been commanded on, the pressure now - or the flow rate, rather, 404 pounds per hour, just about double what we've seen previously, indicating that the second pump is on line. Skylab, Houston. We are doing a scheduled data recorder dump at this site.

PAO We'll be watching the temperature on that secondary loop for any significant decrease. The plan is, if the - if the loop temperature does begin to drop, to turn the loop off, let it warm up and then some time later to - -

SL-II MC-860/2
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CC Jim, we're not sure whether you have your secondary coolant temp low enabled at this time, on your caution and warning. If you do, it may go off; be no problem. We'll try to warn you before it does.

SC Right.

PAO The secondary loop temperature does drop, to an unacceptable level, and we have to turn it off, the procedure then would be to let the loop warm up and next time to hit it with both pumps simultaneously. In an effort to shake loose that sticky valve. And it does appear that the loop temperature is dropping, down now to about 39.3 degrees. Previously it was up to about 40 degrees Fahrenhiet.

PAO Secondary loop temperature down now to 38.6 degrees.

PAO EGIL, the environmental systems engineer, recommends that we remove the SUS loop from the secondary loop. They plan to shut down the secondary loop - -

END OF TAPE

SL-II MCC61/1
Time: 11:56 CDT 18:16:56 GMT
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PAO - shut down the secondary loop by ground command and let it warm up. The temperature is continuing to drop down to about 38.6 degrees at the present time.

CC Skylab, Houston. We have got the secondary coolant loop secured at this time, and we would like for you to turn off SUS 2. We are not sure whether you got that on on panel 217 or 323. Would you turn the pump off?

CC And for your information, that little procedure we went through did not cause the valve pump to modulate, so we still want to leave the SUS 2 hoses connected because we're still troubleshooting it.

SC Okay, but the SUS 2 pump is off now, Houston.

CC That's affirm. Thank you very much. We copy it's off here.

CC Skylab, Houston. We're 1 minute from LOS. We'll see you again over the Vanguard at 17:14, 1714. We will be doing a data recorder dump at that site. Plus we copied that the TACS is still enabled; at your convenience you may inhibit it.

PAO This is Skylab Control. Skylab now out of range of the Texas tracking station. We'll be coming up on the tracking ship Vanguard in about 12-1/2 minutes. And again the procedure attempt to free the sticky temperature control valve in the secondary coolant loop was not successful. That procedure involved turning on the second pump on the line, doubling the flow rate in an attempt to shock the valve into freeing and controlling the temperature at the desired level of 47 degrees. The added flow rate apparently did not free the valve and the temperature began to drop as the rate of flowing coolants through the radiators increased as the function of having an additional pump on the line. The next step in the troubleshooting operations with the secondary coolant loop will be to let the loop warm up, that'll probably be accomplished within 24 hours and could be - could be accomplished o this shift or during the crew's wake period before putting the crew to bed tonight. And if so, the - the next step in the procedure will be to, in effect, double the shock to the temperature control valves by hitting it with both pumps simultaneously, in effect going from zero flow to something in excess of 400 pounds per hour as opposed to the previous procedure, which went from 200 pounds per hour, to about 400. It's felt that the added shock of hitting it with the 400 pounds per hour flow rate, going from zero to 400 pounds, may free the hung-up valve and allow it to began controlling at the desired temperature level. At 17 hours 3 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-86?/1
Time: 12:12 CDT, 18:17:12 GMT
6/11/73

PAO This is Skylab Control. We're about to acquire through the tracking ship Vanguard. And we'll have acquisition through Vanguard for about 7-1/2 minutes. The EREP officer has gotten from the weather people a satellite picture of the Caribbean and South America areas that were covered in this morning's EREP pass. And we'll put that satellite picture here on the monitors so that you can get a look at it. You'll notice that the area across the Caribbean on the groundtrack was very clear and some light cirrus-type cover over northern South America and Columbia and then virtually clear over the entire Amazon basin. And later on today we expect to get a similar map for - for North America to allow us to do an evaluation as to how many of the predicted, or task sites were, in fact, covered totally or in part. We have acquisition of signal now. We'll stand by for the call to the crew.

CC Skylab, Houston. We're AOS over Vanguard for about the next 10 minutes. And, Skylab, we will be doing a data recorder dump at this pass.

SC Say, Houston. I want you to verify something for me, please?

CC Go ahead, Pete.

SC Would you verify that the flight TO27/SO73 - the SO73 big package and flight tripod were - fit checked in the flight article in the - antisolar airlock, okay?

CC Okay. We'll check it.

SC The reason I asked is because we have the flight tripod in the solar airlock supporting the parasol TC27 can, and the tripod that we brought up which we put along side the other one is identical to it, as best we can tell. Does not check on SO73 nor does it check on places for it and we're having to do a little juggling and right now we're going to finish prep and trade tripods, but I'm not convinced that the other tripod's going to fit either. So before we go to that trouble on - if you can verify it - verify the paperwork, we'll know that by swapping tripods, at least we're starting in the right direction. We may have to jury-rig the other tripod under the parasol.

CC Okay, Pete. I'm pretty sure I did that one myself, but we'll get it checked.

CC And, Skylab; Houston. We are going to be sending some commands to the computer to update the timers, so if you'll stay off the DAS for us, please?

CC CDR, Houston. You got a moment to talk about the SO52 - the cam - the fact that the camera doesn't work and our (garble) people would like to know if you'll do them a favor in giving them a little bit of extra IV today?

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Time: 12:12 CDT, 18:17:12 GMT.
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SC Okay. Sure. What do you want?
CC Okay. On your next pass coming up, they would like to give in building block 2 about 15 seconds of S052 TV on the VTR.
SC Okay. TV 2, 15 seconds of TV on the VTR.
CC Okay. They also were requesting that same thing two other times today, and one is at the 21:18 pass where you got another building block 2, where they'd like the same thing there.
SC Tell you what. How - how about cleaning up from PTH. About half of the rest of that's coming up when I get up to the (garble).
CC Be glad to do that. Thank you.
CC Skylab, Houston. We have checked and it is affirmative that that tripod was checked with the flight T027 unit in both SALs at the Cape.
SC Okay. Well, we'll try the flight one in the flight S073 and see what happens. Maybe the other one's wrong. But it's not obvious to us, it's not identical to that other tripod.
CC Okay. And we're going LOS here. We'll see you again at Hawaii at 18:22.
PAO This is Skylab Control. Out of range now of the tracking ship Vanguard. And 1 hour away from acquisition through the Hawaiian tracking station. During that pass over the Vanguard, Pete Conrad advised that the tripod used to provide additional rigidity to the T027 experiment and S073 experiments, which attach to the scientific airlock appeared not to fit. This tripod is the, according to Conrad, the unit that was flown up to be used in conjunction with the parasol deployment which is also deployed from a canister identical to those used for the scientific airlock experiments. The same tripod used for both containers, and the crew elected to use the primary, or the one that had been flown aboard the workshop - the tripod flown aboard the workshop to support the parasol package and on attempting to use the backup item that had been flown aboard, which for all intents and purposes is identical to the flight original item. Found that the tripod fit. Now we don't know whether that fit failure was at the attach point to the experiment canister or to the attach points at the floor. And I expect that will be clarified with the crew the next time we have a station acquisition. The tripod is not a functional piece of equipment for the experiment. The experiment would work perfectly well without it, but the tripod does provide some additional rigidity and takes the support load off the scientific airlock attach point, so that you don't have a fairly long canister poking out into the

SL-II MC-862/3
Time: 12:12 CDT, 18:17:12 GMT
6/11/73

workshop supported only at the attach point. And if the canister were bumped or something like this, they would want the additional rigidity to avoid any damage to the interface point with the scientific airlock. Fifty eight minutes now till acquisition at Hawaii, and we are going to replay the television of the EVA to repair the workshop solar panel during this long period where we have no acquisition. At 17 hours 24 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC863/1
Time: 13:20 CDT, 18:18:20 GMT
6/11/73

PAO This is Skylab Control, at 18 hours 21 minutes coming up on the Hawaiian Island tracking station. Hawaii and Vanguard the only two station that we hit on this revolution; the 405th and going on into the 406th revolution. And we're about a minute away from acquisition. We'll be in contact through Hawaii for a very short pass, only about 3 minutes. And it'll be about 25 minutes from the time we lose signal through Hawaii until we pick up Vanguard.

PAO This afternoon the crew's major activities are operation of the Apollo telescope mount experiments, and medical experiments M092 and M171. Commander, Pete Conrad, responsible for the ATM duties and science pilot, Joe Kerwin, and pilot, Paul Weitz, handling the M092, M171 series, the lower body negative pressure in the metabolic activity, metabolic analysis experiment.

CC Skylab, Houston. We're AOS over Hawaii for about 3 minutes.

SC Okay, Crip. I got a question on my T027 pad.

CC Go.

SC Burn OA program I got a - the program start. It's 18:52/19:06. Does that mean you want to start it once and stop and start it over again, or does that mean I can start it anytime in that interval?

CC Anytime in that interval.

SC Hey, you guys are easy.

CC Yeah, tell us the - tell us the story on the big tripod mystery.

SC Well, I tell you, the one out of the trainer which we brought up to use with the parasol doesn't - the head is the length - base. On the top of the length goes the base, then on the base goes the head with the adjustable screws. You with me?

CC Yeah.

SC Well, that head is bolted to the base differently. It's about 4 inches further to the right than is the Flight one.. And it must have something to do with that 6 degrees or so misclocking of the floor grid in the trainer. So what we've done is we've only taken the spacecraft apart a little bit to find bolts with nuts on them. And it is now bolted to the floor. We may never get it up, but it's there to stay - it's there now.

CC Okay, I guess I'm still not sure exactly what configuration when you say it's bolted to the floor. You have the trainer i under the parasol. Is that correct?

SC Negative.

SL-II MC863/2
Time: 13:20 CDT, 18:18:20 GMT
6/11/73

CC You got - -
SC - - The trainer went under TO27. We didn't drain them out because it became obvious that we're only floping our troubles from one airlock to the other.
CC Okay. And the problem apparently is in the way the thing is bolted, but it's - The way you have it now you feel it offers adequate support for TO27, right?
SC Oh, yeah. It may tear up the grids more but it - it won't let TO27 move.
CC Okay, what you had to do was just shift it off of the normal holes to get it in the right position.
SC Yeah, but that's not adjust, because we had to get some of the lock nuts-type nuts and bolts.
CC Okay.
SC We had all the activation gear. We got a lot of bolts, but no nuts. So we had to take some out of the grid.
CC Okay, I wasn't implying to mean the amount of work you did. You didn't take it apart too much, did you?
CC Hey, we're going to go LOS here in about 15 seconds. We'll see you again over the Vanguard at 18:50, and we will be doing a data recorder dump at that pass.
SC Okay.
PAO This is Skylab Control, 22-1/2 minutes away from the tracking ship Vanguard and our next acquisition with Skylab. From the crew's description it sounds as if they had remedied their tripod problem simply by relocating the attach points, instead of attaching the base of the tripod through the planned holes, moving it over and attaching it through the grid, using bolts and washers that they were able to come up with from the - from the workshop. And it wasn't too clear whether they had gotten those - those nuts. I think we said we heard Paul Weitz describe having adequate number of bolts but having to salvage some nuts from the - from the workshop to attach the tripod to the - to the gridwork of the floor. And apparently he feels that it is secure enough to provide good support to the TO27 canister. At 18 hours 28 minutes, this is Skylab Control.

END OF TAPE

SL-II MC-864/1
Time: 13:48 CDT, 18:18:48 GMT
6/11/73

PAO This is Skylab Control. We're 1 minute now from acquiring Skylab through the tracking ship, Vanguard. And that'll be our, one of our two stations acquiring the spacecraft on this revolution, the other being Hawaii. After we lose contact through Vanguard, that'll be about an hour before we pick up again through the Hawaiian station.

CC Skylab, Houston. We're AOS over the Vanguard for the next 10 (garble).

SC And if you're trying to call, Houston, you're unreadable.

CC Roger. We're having a little site problems right now, Pete.

CC Skylab, Houston. We'll try once more here. We're got LOS - correction AOS, for about the next 7 minutes.

SC Okay. Now we got you.

CC Okay. And CDR, do you have a moment to talk a little bit about your next ATM rev?

SC Yeah, go ahead.

CC Okay. I don't know whether you caught it or not, but we've got an audit step scheduled for 82B and that normally is called out for auto sequence switch to hold the end of the pass, and since we aren't repeating that one, what we'll need you to do there is just to stop it.

SC Yeah, where are you?

CC I'm sorry. It's on your next rev.

CC The next - -

SC Building block 23?

CC That's affirm. Building block 23 - -

SC Okay. Don't call it to hold just terminate?

CC That's affirm.

SC Okay. Now, tell me when you want the white light coronagraph on TV. I've already given you that this pass.

CC Okay. The next one we want is actually on, I believe, on Joe's rev, if you could put it down on the schedule, I'd appreciate it. It's for the rev around 01:55, in building block 1, we want - want him to give us the same thing again, 15 seconds of white light coronagraph TV on the VTR.

SC Okay.

CC And if Paul is still listening, that tripod you guys took up in the command module was supposed to be a backup unit from Huntington Beach, and we're trying to check into it to find out why it - why it was off then.

SC Yeah, the top is offset from the (garble).

CC CDR, while I've got you here, I guess there's a question that we're pondering down here, that we'd

like to get your opinion on. We have discovered on 8056, that we really don't need to turn off the aluminum and beryllium high voltage every SAA, nor at night when you leave the thing unattended. We're considering sending you up a teleprinter pad that which basically eliminates that procedure, primarily for your convenience. And like to know your opinion on it.

SC Hooray!

CC Okay. We'll zap it up to you.

CC Skylab, Houston. We're about 30 seconds from LOS. We'll see you again at 19:58. And, Paul, if you have an opportunity, we'd appreciate it if you could tell us what the shaft and trunnion angles are on 27 right now?

SC They appear to not have moved. The shaft is 16, the trunnion is zero.

CC Roger. And copy, shaft, 16; trunnion zero.

PAO This is Skylab Control. Loss of signal now through Vanguard and it'll be almost an hour, 57 minutes to be exact, before we reacquire at the Hawaiian tracking station. Spacecraft now in it's 406th revolution. At 19 hours, this is Skylab Control.

END OF TAPE

SL-II MC-865/1
Time: 14:55 CST, 18:19:55 GMT
6/11/73

PAO This is Skylab Control; 19 hours 55 minutes Greenwich mean time. On mission day 18, revolution 406. Skylab space station at this time is orbiting the Earth at 241.7 nautical miles at the high point and 230 nautical miles at the low point. It takes roughly 1 hour and 33 minutes to circle the Earth. The space station is traveling at 25,102 feet per second. We're approximately a minute away from acquisition at the Hawaii tracking site. And we will be in communication with the Skylab for about 9-1/2 minutes. We'll stand by for the air to ground.

SC Okay. Are you there, Houston?

CC Skylab, Houston. That's affirmative; we're here for about 8 minutes.

SC Okay. I knew you had a reason other than passing interest for asking me about that S073 shaft and trunnion angle.

CC Roger.

SC I think it was early in the program, Crip, right after you called me, I went up and checked Paul's by mistake; and corrected it on the spot. So that the majority of the exposures in that sequence are per the book then.

CC Very good. We appreciate it.

SC Okay.

END OF TAPE

SL-II MC-266/1
Time: 15:00 CDT, 18:20:00 GMT
6/11/73

CC CDR, Houston. We indicate that your H-Alpha is in two frames per minute. It should be one at this time, sir.
SC Okay.
SC (garble) last pass.
CC Roger.
CC Skylab, Houston. We're about 30 seconds from LOS. We'll see you again over the Vanguard at 20:29, and we will be doing a data recorder dump at that pass.
SC Roger.
PAO Skylab space station has moved out of range of the Hawaii tracking station. During this pass, EGIL, the environmental officer, reported to the flight - flight director here in Mission Control, "we look good at Hawaii," meaning his systems looked very good on the Skylab space station. We will next acquire in 20 minutes over the Vanguard tracking site. At 20 hours 8 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-867/1
Time: 13:26 CDT, 18:20:26 GMT
6/11/73

PAO This is Skylab Control, Houston. At 20 hours 26 minutes Greenwich mean time. About 2 minutes from acquisition of signal at the Vanguard tracking ship. We just had an indication here in mission control center that we indeed will be acquiring at Vanguard the Warbler went off with its peculiar sound. At this time, according to the Flight Plan, the commander Charles Pete Conrad, is at the Apollo Telescope Mount station, undertaking some sun watching experiments, while the Science Pilot Joseph Kerwin and the Pilot Paul Weitz, are in a an M131 human vestibular function experiment. In this particular experiment today, astronaut Kerwin is the subject and Paul Weitz is the observer. Purpose of that human vestibular function is to determine if there are, are significant effects produced by weightlessness, on vestibular functions. Using a rotating litter chair and other accessories. We are about 40 seconds from acquisition of signal, we'll stand by for radio communication with the crew.

CC Skylab, Houston. We're AOS over the Vanguard for the 9 minutes.

SC Roger, Houston.

CC Roger. And if possible we'd like to get somebody to secure the experiment 1 and 2 tape recorders until they're required for 92, to solve a little dump problem for us.

SC Okay.

CC We note that they're secured. Thank you.

CC Skylab, Houston. We are doing a data recorder dump this pass.

SC Okay.

END OF TAPE

SL-868/1
Time: 15:32 CDT, 18:20:32 GMT
6/11/73

CC Skylab, Houston, we're one minute to LOS. We're having that long silence. See you again at Hawaii at 21:3(21:36.

CDR Bye.

CC Bye.

PAO The Skylab space station has moved out of range of the Vanguard tracking site. We will acquire again in about an hour at the Hawaii site. At 20 hours 37 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-869/1
Time: 16:34 GMT 18:21:34 GMT
6/11/73

PAO This is Skylab Control, Houston. At 21 hours 34 minutes Greenwich mean time, the Skylab space station is about a minute from acquisition through the Hawaii tracking site. We will be in communication for about 6-1/2 minutes. Stand by for radio communication with the crew through Hawaii.

CC Skylab Houston. We're AOS over Hawaii for about the next 7 minutes.

CDR Roger Houston.

CDR And when you dump the M092 171 TV there's right on the end of it, a shot of white light coronagraph (garble)

CC We copy.

CC (garble)

CDR Hey Houston, this 56 hung up again in active MOD 1 of the last go round on filter ..

CC Understand it hung u, filter 1?

CDR Yeah, for some reason it does it every once in a while and then it will go on for [illegible] time and not do it.

CC Copy.

CC Skylab for your information, on our next pass at the Vanguard, we are going to be turning on the secondary coolant loop again. And if you've got your caution and warning enabled, you'll probably get one.

CDR Okay.

SC (Music)

CDR If you want to know, this music is to do JOPS by.

CC Yes.

CC Skylab Houston. We're about 30 seconds from LOS. We'll see you again over the Vanguard at 22:07, 22:07. And right now I guess we're thinking that 56 problem may be associated with when you start 55.

CDR Fifty-six has something to do with fifty-five?

CC It seems like that filter thing is hanging up just about the time that you're starting 55.

CDR Fifty-five was running last time.

CC Ah-hah. Okay.

PAO The Commander said "that's music to do JOPS by." And JOPS is joint observation program, a part of the Apollo Telescope Mount experiment series. At 21 hours 43 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-870/1
Time: 17:05 CDT 18:22:05 GMT
6/11/73

PAO This is Skylab Control Houston at 22 hours 5 minutes, Greenwich mean time. The Skylab space station is about a minute away from acquisition at the Vanguard tracking ship. We will have about 9 minutes - 9-1/2 minutes of air to ground through the Vanguard tracking ship. And we'll stand by for radio communication with the crew.

CC Skylab, Houston. We're AOS over the Vanguard for the next 10 minutes.

CDR Hi there. Say, 56 hung up again. Middle of the pass, active MOD 1, filter three. And S055 was running at the time.

CC Roger. It would appear that maybe it isn't necessarily 55, but they think it's being caused by some stray input coming in. That hung up on filter three that time. That's affirm.

CDR Yeah. Second pass through. That seems to be it's favorite one. It hangs up in MOD 1. The second pass through, it hangs up at filter three.

CC Roger. And Skylab, we are going to be activating the secondary coolant loop this pass.

CDR Okay.

CDR Okay, Houston. We have a sec COOLANT info light.

CC We copy and we're shuting down the loop.

CDR Okay.

END OF TAPE

SL-II MC-871/1
Time: 17:10 CDT, 18:22:10 GMT
6/11/73

CC CDR, Houston. You got a chance to talk to me about a S073 problem that we've got?
CDR Yeah, go ahead.
CC Okay, apparently we're getting some stray light into the instruments for some reason and there are a couple of things we'd like to try. Unfortunately they're using the recorders right now down on 171, so we really can't, apparently, make a run on it right now. Our first option would be to start it on our next Vanguard pass, but that's going to drag you guys out of some of your pre-sleep activities. Would you go along with that?
CDR Yep, go ahead, we'll see.
CC Okay, at your first opportunity we would for you to cycle the PMT cap switch to OPEN and then back to CLOSED. That's this rev.
CC Okay, on the next rev, I'll give you a call on it at our next Vanguard pass and we want you to run a short mode zero-alfa. It's short in that we're only going to take 12 (garble)
CC Okay, PMT caps switch OPEN and then CLOSE right now, and you wanna run a short mode zero-alfa.
CC That's affirm.
CC And if I've still got you there I might as well tell you about on your S073 pad for this evening - the way it was broadcast up to you it may look like it belongs to the PLT, but the last half of it does belong to you. Do you happen to have that handy?
CDR Yes I do and I was going to ask you. The shaft and the trunion are just like they are in the book, but you want to go with the pad, right?
CC That is correct and we also would like to change that program START time. It's currently still 114. We'd like to change that to 01:16.
CDR Okay, you had it 01:09 to 01:14, and you want to call it exactly 01:16, right?
CC Stand by one, Pete.
CC Okay, slight mod to that, 01:09 should be 01:14 and the 01:14 should be a 01:16.
CDR Okay.
CC Okay, Pete appreciate it.
CC Skylab, Houston we're one minute from LOS. We'll see you over Ascension at 22:22. We'll be doing a data recorder dump at that station.
CDR (Garble)
CDR Okay, Crip, I cycled the PMT cap OPEN and then CLOSED again.
CC Thank you very much.

SL-II MC-871/2
Time: 17:10 CDT, 18:22:10 GMT
6/11/73

CDR You're welcome.

PAO The Skylab space station has passed out of range of the Vanguard tracking ship. We have an announcement for the press. There will be a Change-of-shift briefing in the news center briefing room at - starting at approximately 6:30 p.m. central daylight time. Mel Brooks, who has the title of Manager of the Flight Operations Management Room, acronym FOMR, will meet the press tonight to answer their questions to give them a status report on the Skylab mission for today. Also, another bit of information. Earth Resources pass number 9 scheduled for tomorrow will start at Grand Forks, North Dakota, and experiments information will be taken over Grand Forks and over at - and along a track which takes the spacecraft over Detroit, Washington D.C., out over the ocean, ending up at Recife, Brazil, in South America. Length of the pass is about 6800 statute miles. Tomorrow's EREP pass starts about 7:00 a.m. central daylight time. And we'll be standing by for acquisition of signal at the Ascension site, so we'll just keep the line up.

END OF TAPE

SL-II MC-872/1
Time: 17:18 CDT 18:22:18 GMT
6/11/73

PAO We expect spacecraft acquisition at the Ascension tracking station in about 4 minutes.

CC Skylab Houston. We're AOS over Ascension for about 7 minutes, and we'll be doing a data recorder dump.

CDR (garble)

CC And Skylab, as you might have gathered on that last secondary coolant loop, we didn't have any joy in getting the valve to cycle. So, we're going to let it set with it turned off probably over night.

CC And CDR Houston. For your information in case it wasn't clear a while ago, the reason we're asking for one more cycle or one more rev before we do this S073 operation is that we need it on the dark side to really be able to determine if we've got a light leak.

CDR Okay, we've had the wardroom window closed all the time, and I - -

CC Pete, I was really unable to copy there due to feedback. Understand that you had the wardroom window closed.

CDR Okay. The wardroom window was closed, that's right. And I can't think of any other place that it could be coming in.

CC Okay.

CC Skylab Houston, we're 1 minute from LOS. See you again at Guam at 23:06, 23:06.

PAO The S073 experiment in question during the last couple of passes over tracking sites, is the Gegenschein Zodiacal light experiment. Apparently unwanted or stray light earlier perturbed the experiment when it was conducted at an earlier pass. And the flight controllers and the crew are investigating in order to correct the anomalies. Our next contact with the space station will at the Guam site at 23 hours 6 minutes Greenwich mean time. And we'll be in contact for approximately 6-1/2 minutes. We'll take the line down now. At 22 hours 31 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-17/1
Time: 18:? CDT 18:23:03 GMT
6/11/73

PAO This is Skylab Control at 23 hours 3 minutes, Greenwich mean time, with an advisory to the press. The change of shift briefing that had been announced earlier as having started at 6:30 p. m. central daylight time, will be delayed approximately one hour to 7:30 p.m. central daylight time. Here in the Control Center they're in the process of handing over. The Milton Windler team of controllers are off-going and they're handing over to the team of flight controllers headed by Donald Puddy. We're about a minute and a half away from acquisition of the spacecraft, the Skylab space station, through the Guam tracking site, and we'll be in contact for some 6-1/2 minutes. We'll stand by for any radio transmissions that take place between the crew and the ground.

CC Skylab, Houston. We're AOS over Guam for about 7 minutes.

CDR Hello.

CC Hello.

CC Skylab, Houston. We're uplinking to you via the teleprinter the summary flight plan and the evening questions.

SPT PLT says we got the teleprinter turned off.

CC I figured you guys were about ready for that.

SPT No, we're not ready for that yet.

CC We are down here.

(laughter)

CDR See you at the (garble) for a cold one.

CC In about 30 minutes for me.

CC And Skylab, before I leave you here. I guess we went back and reviewed some pictures regarding the backup tripod that was loaded, and sure enough, we got a plate that the hole pattern was - looks like it was drilled in with a mirror image.

PLT There you go.

CC And they asked why we did C squared S squared.

CDR That's right.

CC Skylab, we're 1 minute from LOS. We'll see you again at 23:44, 23:44 over Vanguard.

CDR Okay, and I gathered you wanted 12 revs on that 08. It's all set up, ready to go.

CC Okay, that is affirmative. 12.

CDR Okay, and you gonna call us start time. Right.

SL-II MC-873/2
Time: 18:03 CDT 18:23:03 GMT
6/11/73

CC That's affirm. We'll give you a call when to initiate it.
CDR Okay.
CC Okay, we didn't get that flight plan completely up. Had a lot of dropouts, we'll try it again over Vanguard.
CDR Copy, copy. Okay.
PAO We've passed out of range of the Guam tracking station. At 23 hours 12 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-874/1
Time: 18:42 CDT, 18:23:42 GMT
6/11/73

PAO This is Skylab Control, Houston at 23 hours 42 minutes Greenwich mean time. Coming up on the Vanguard tracking station in about a minute. Following the Vanguard pass we should have acquisition at Ascension, the Canaries, and Madrid for a long period of com. We'll stand by for the air-to-ground.

CC Skylab, Houston, AOS 11 minutes.

PLT Hello, Houston where are we?

CC You're over Vanguard.

PLT Okay, and we're standing by to run S073 for you.

CC We'll give you the GO on it.

CC PLT, Houston.

PLT Go ahead.

CC You're GO for the experiment now. Be advised that we're having some MOC problems here and we may not be getting TM and we'll be dependent upon data recording, and we request that you verify that it is set up for data recording.

PLT It's all set.

PLT It's all set up and we'll do it.

CC Copy.

PLT Okay, it's running.

CC Copy.

END OF TAPE

SL-II MC-875/1
Time: 18:47 CDT 18:23:47 GMT
6/11/73

CC PLT Houston.
PLT Go ahead.
CC Our MOC was working and via TM it appears that the S073 shutter is operating normally.
PLT Okay, thank you Bill.
PLT (garble) reported the ready light is secure.
CC TM will turn off automatically so just let it run.
CDR Houston, CDR.
CC Go CDR.
CDR Roger. I noticed that the intensity is pegged high. Do you want me to go to low gate?
CC Stand by.
CC CDR, Houston, we want you to go FOV 1.
CDR FOV 1.
CDR We go FOV 1.
CC Copy.
CC Skylab Houston. LOS in 1 minute. Ascension at 23:57. And you should have a flight plan onboard for a review.
PLT Roger Houston. Bye.
CC We'll see you.

END OF TAPE

SL-II MC-876/1
Time: 18:55 CDT 18:23:55 GMT
6/11/73

CC Skylab, Houston. AOS for 15 minutes.
CDR Roger.
CC And Skylab, if it won't interfere with your activities, we have some news items a bit earlier this even'ng.
PLT Go ahead, Houston.
CC First one is, the President met with top economic advisors today, and a new economic program is expected to result from the meeting, perhaps by the middle of the week. Just as background, you may have been following the increase in gold prices and that sort of thing. Also, Henry Kissinger met with the President today to try to find new ways to erforce the cease fire in Viet Nam. And the Senate had a hearing on the oil and gasoline shortage, and they heard witnesses say that this summer gas shortage may be followed by a winter heating shortage, and that the oil companies want to relax their pollution standards. Here's a piece, I guess it can happen to anybody, an airliner, it doesn't say what size, mistook Opaloca today for Miami International and landed there. About the only other thing - we mentioned last night that Petty won the Alamo 500, and his average was 145.1.
CDR Hey, Bill (garble) race of champ'onship cars at Milwaukee, and if so do you know who won that, or is it this weekend?
CC We'll try and get it for you Pete.
CDR Thank you.
CC Also, if there's anything else you people might want, like stocks or such as that, why let me know and we'll try to add it to the list.
CDR (garble) You're doing great.
CC And by the way, we had some big thunder bumpers that opened up and pretty well flooded some areas of Houston today.
CDR Still a wet year, huh.
CC Affirm.
CC Pete, the best information we can dig up out of the group around here is that Bobby Huntza won that race yesterday. We don't have any details. We'll try and get some more for you.
CDR Okay. Thank you.

END OF TAPE

CC - we also have a letter here that we were asked to pass along to you, addressed to Dr. Fletcher. It says that you astronauts have done it again. The magnificence of this accomplishment and the significance of the achievements - -

CC And Skylab, continuing before we were so rudely interupted there. "The magnificence of this accomplishment and the significance of the achievement is nearly impossible to put in perspective. I know I speak for all my colleagues in the Congress when I send this message of congratulations to you with the request that you communicate our great appreciation to the astronaut team of Conrad, Kerwin, and Weitz. You are truly a can-do team. We salute you all" Signed: Frank Moss, Chairman Committee on Aeronautical and Space Sciences, United States Senate.

CDR That was very nice.

CDR We haven't done anything yet, we gotta get through 28 days.

CC You've done pretty well so far.

CDR I don't expect to buy any (garb) with your picking up the pace a little though.

CDR We're going for the home stretch.

CC And it always looks easier going down hill.

CDR We had meal six tonight. That's everybody's - well, that's Paul and my favorite meal. Joe's is I don't know what night his is but we chowed down pretty good tonight. That's stuff our big Sunday night dinner.

CC We copy that.

CC Do you count your days by the meal cycles there?

CDR (Garble) various schemes.

CDR How many more times we have to 171 or how many more times we have to change this bag or that thing - -

CC We copy.

CC 172 wasn't too bad today was it Pete?

CDR Oh, I didn't do that, Joe did that nasty stuff. He's working on my throat culture or something. He's got his instruments out and he's working his way around with them there.

CC Copy.

SPT I have my hobby up here. I have my do-it-yourself real doctor kit. Right now I'm staining the slides.

CC Very good, maybe you'll grow a new variation up there, (garble)

SPT I can't even tell you what it looks like. The M172 went fairly smoothly today, Bill and the numbers looked

pretty good.

CC Okay, thank you again.

SPT And you know we did not do the procedure in the morning weight because I thought the pad was a calibration pad and I didn't even look at it until breakfast, but we'll do that tomorrow morning.

CC Okay.

CDR (Garble) The orbits have been changing, Bill, we been going - coming up on our sleep time over Australia - that it - good high noon conditions and the weather's been good and we've got some pretty good looks at all of Australia and New Zealand, which y'all see (garble) It was always night time in Australia or just barely barely daylight much of Australia.

END OF TAPE

SL-II MC-878/1
Time: 19:11 CDT 19:00:11 GMT
6/11/73

CDR And we've gotten some pretty good looks at all of Australia and New Zealand. On all of my previous flights it was always night time in Australia or just barely barely daylight in much of Australia.

CC Yeah, we copy that.

CC And be advised that S073 is completed.

CDR Okay, I'll just the recording box.

CC SPT Houston.

CC Delay that. Delay that. PLT Houston.

PLT Go.

CC We'd like for you to lock the star tracker now. The inner gimbal is plus 0177, outer gimbal plus 1981.

PLT Okay wait until I get a piece of paper. You'll have to read them over Bill.

CC Wilco.

PLT Okay, say again the angles.

CC Inner gimbal plus 0177, outer gimbal plus 1981.

PLT You say you wanted that now or when it's available?

CC When it's available.

PLT Okay, some of it is not abailable right now.

CC That's affirm.

CC And Skylab, we'll be LOS in 1 minute. Guam AOS 00:41, and we will be dumping the recorder over Guam.

CC And Pete, a little more information on that Rex Mayes memorial in Milwaukee. And he finished 10 seconds in front of Roger McKlusky. Gary Bettenhousen was third, and his speed was 108 miles an hour. And there were no accidents.

CDR Good show, thank you.

PAO The Skylab space station has moved out of range of the Madrid tracking site, the last of a number of stations that had contact over the last 35- 40 minutes. Guam is the next tracking site, and we have acquisition of signal in about 23 minutes. Copies of the Frank E. Moss telegram to Dr. James C. Fletcher congratulating the team and the astronauts are available. Copies of that telegram are available in the News Center Briefing Room. At 18 minutes into the new day, that is day of the year 163, this is Skylab Control.

END OF TAPE

SL-II MC-879/1
Time: 19:32 CDT 19:00:32 GMT
6/11/73

PAO This is Skylab Control, 32 minutes into the new day, Greenwich mean time. The change of shift status report will take place momentarily with Milton Windler, the off-going flight director, and is head of the Maroon Team, responding to questions from the press. We're about 8 minutes from acquisition through the Guam station. We'll take the line down and tape any of the information coming from the crew or going up to it through the Guam station. At 33 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-880/1
Time: 20:15 CDT, 19:01:15 GMT
6/11/73

PAO This is Skylab Control at one hour 15 minutes Greenwich mean time. During the - during the press conference that - the change-of-shift briefing that we just concluded, there was some four and a half minutes of air-to-ground that took place over the Guam tracking station. And we're prepared to play that for you now.

CC Skylab, Houston. AOS Guam for 10 minutes.

PLT Go ahead, Houston.

CDR I'll have the evening status report for you in just a minute.

CC We're standing by Pete.

CDR Okay, Houston, the CDR ate everything plus 10 optional salts, plus two butter cookies - two cans of butter cookies, that is.

CDR The SPT had everything except one coffee with sugar. No optional salts, no Delta H20. And he's going to have two cans of butter cookies.

CDR And the PLT ate everything except one coffee with sugar and he had no Delta H20 and seven optional salts.

PLT (Garble)

CDR And that's it for the food. Are you ready for the photo report for day 161?

CC We're ready Pete. Go ahead.

CDR Okay, 16 millimeter EREP the H Bravo Hotel 02. I'm sorry - day 162 - I was reading you the wrong button. Bravo Hotel 02, 80 percent remaining and yesterday on 160 day 161 we reported 65 percent remaining and I think he misread that - that's an 85 for 161 and 80 for today. And we did verify that the film is running. M516-2CI, 05, 40, CIO1. M151/S073 PR and extend. CIO8, 18, CIO7; 35 millimeter: CI27 is complete, CI29, 32 - oh I have to look at this a minute. The CI28 is 12. The S06 is 91. The ETC, 135. EREP that pop-up 17145, 2 with 5481, 3 was 7357, 4 was 7352, 5 was 0896, and 6 was 8212. Drawer A configuration is as follows: Alfa 1 is 02, Charlie India 05.0, Charlie India 01. Alfa 2 was 03, Charlie India 06, 62, Charlie India 03. A3 is 06, Charlie India 08 18, Charlie India 07, 04 is 05 - A4 is 05, Charlie India, 25, 100 percent, MT11. Okay the flight plan was accomplished as written - I don't know of any deviations - any anomalies that you're aware of - no stowage changes and no inoperable equipment that you're aware of. The flight plan for tomorrow looks busy but good.

CC Copy.

CC Skylab, we're going LOS in 30 seconds. Coming up on Vanguard at 01:21. And, Pete we've got some clarification on that incomplete second question last night.

SL-II MC-880/2
Time: 20:15 CDT, 19:01:13 GMT
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What they're really after is when you turned on the loop - the LCG loop in relation to suiting up. And you have a medical conference scheduled for the next pass. That should have been the SUS loop instead of the LCG loop.

CDR We're going to have to reset that one. I don't really remember it.

PAO We're about a half a minute from the Vanguard tracking ship and at that time when we will have the evening or the daily - rather the daily medical conference. We'll stand by - we'll keep the loop up during this Vanguard pass, standing by.

END OF TAPE

SL-II MC-881/1
Time: 20:21 CDT 19:01:21 GMT
6/11/73

CDR Houston Skylab.
CC Go Skylab.
CDR Okay, on the flight plan for tomorrow for the CDR from 20:00 on to 23:00, that S073 stuff looks all goofed up to me. You got me running 2 programs that retract again on M151 and then running another program and then retracting it again. I don't think that's right. Can you see if you can get that straightened out between now and the next pass and let me know if it's goofed up or not. Because I just don't understand it.
CC Wilco CDR.
CDR Also, it says to extend it first thing in the morning on this flight plan. And we have nothing up here tonight that says to retract it. I need that straightened out also.
CDR Did you get that?
CDR Goodbye.
CC CDR, we'll be LOS here in approximately 15 seconds. We'll go at Canary at 01:41. And the details that are coming up shortly should explain the flight plan. The retraction is 7 to 2 rods, that also is on the detail plan.
CDR Okay. (garble)
CC (garble)
CDR (garble)
PAO We've had loss of signal from the Vanguard site. We'll be back up to the Canary Island tracking station in about 10 minutes for a 9 minute pass there. At 1 hour 31 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-882/3
Time: 20:40 CDT 19:01:40 GMT
6/11/73

PAO This is Skylab Control at 1 hour 40 minutes, Greenwich mean time. The space station is approaching the Canary Island tracking site, where we will have contact for about 9-1/2 minutes. We'll stand by for the radio transmission through the Canaries.

CC Skylab, Houston. AOS approximately 10 minutes.

CC Skylab, Houston. AOS for approximately 14 minutes.

PLT Hi there Houston.

CC And someone was talking when we went over the hill before, and we didn't get the last comments.

CDR That was me saying that I wasn't really sure I believed you. That when I got the details tomorrow it'd all be beyond to me what our flight plan was, but I'll give it a try.

CC Copy, Pete.

CDR I do have some reservations. You got enough photo TV stuff tied in with the rest of the stuff that it looks to me like I'm gonna run behind in the afternoon. That's just my offhand guess right now. I'll scurry and do the best I can.

CC Copy. And those pads should be coming up on this pass. Also we're configuring the GYROS for the sleep and that's why I want 2 on the line and 1 and 3 as back-up.

SC (garble) down there if the GYROS worked the way they were supposed to work?

CDR We're working on a new game up here Houston. It's called get the rubber ball back to you. Trying out the water ring lockers first.

CC Which ball you using, Pete?

CDR The big rubber one, but it gives up energy awful fast though. It kind of poops out after four or five bounces.

CC Copy.

CDR What we really need is one of those super balls.

CC Yeah, it must be some sort of ESP going along. That comment just came from two people down here as well.

CC You can always pull down a couple of those big lockers and drop half of them down like medical balls, I guess.

CDR Yeah, we did that with 183 and S073, that heavy gear, we throw that around for exercise.

CC You're coming too close tonight, Pete.

SL-II MC-882/2
Time: 20:40 CDT 19:01:40 GMT
6/11/73

CC Pete, how much noise and vibration do you have in that thing up there? Sounded pretty quite on your read-downs the other day.

CDR It's very quiet in here. If the DAF meter was right, the noisiest part is up in the MDA. It's about 64 DB, and down here in the workshop, the wardroom and the bedrooms runs about 55.

CC How about vibration? Can you feel much in the framework and such?

CDR There's no vibration at all. We can hear - you can't hardly hear the fans running, what we can really hear running are the refrigeration pumps, and there's no vibration. We got a friendly hunk of meteoroid shield or something outside, though that crackles. Especially when we go in the dark. Very loud and plain. One big crunch. It does it every night when we go in the dark. That's about it.

CC Yeah, we heard about that one the other night.

CDR We were glad to see the other experiments come up, because we've been running about 3 days now, on essentially the same routines for everybody and we were just remarking we needed a little change of pace, and tomorrow looks like it will do it.

CC Yeah, there's usually something though to turn things around after a period down here.

END OF TAPE

SL-II MC-883/1
Time: 20:46 CDT 19:01:46 GMT
6/11/73

CC - - And review something now. To turn things around after a period down here.
CC There is a certain amount of casual requests for crew time going on down here as you might imagine.
PLT uh-huh.
CDR Don't worry, we find plenty of things to keep ourselves busy with.
CC What I meant was, one investigator might be casually requesting another investigator to give up a bit of time, this sort of thing.
CDR I see. Well you know it's sort of like Joe and Paul were good boys tonight, so I let Joe have the command module and Paul have 509.
CC Copy.
CDR The PLT spends his spare time looking for new places to sleep.
CC Have you tried letting him sleep strapped in the 509 yet?
CDR Yeah Hank, we're ready to charge the batteries and the bottles on 509. We got it all activated last night.
CC Your translation modes up there are pretty interesting. I had predicted the links weren't always going to be too useful there. And I noticed that Joe seems to keep his pretty well tucked up under him.
CDR Everybody has their own way of going, and it depends on what you're doing. Joe likes - when he's working and he's got to be held down, Joe uses the lollipop. I've stuck strictly with the triangle shoes, depending on the task, or I wear my slipper shoes. It's a matter of what I'm going to do. When I'm going to run the ATM, I don't need the triangle shoes. So, we've got all kinds of different ways of trying to do it, doing his own thing. But essentially I think the most important thing is that all of us can do all the tasks and we really don't have too much trouble doing them. As I said earlier and it still applies, if it's got a lot of little pieces that you've got to hold on to keep track of a lot of things, it slows you up a little bit. But that's about the only difference up here than down there. We've adapted very well. Everybody - well if you're just resting, we just free float and wind up wherever we wind up, in the ceiling, on the floor, over in the corner, ricocheting off the walls, and it doesn't seem to bother us.
CDR We've also gotten to where we can turn the vehicle right side up or upside down, depending on how we want to do it. If you want to stand on the ceiling for a while, after a while everything looks perfectly natural

that way.

CC Copy that. And we gathered that you had some pretty efficient ways of hanging on, some of which left us mystified down here as how you seemed to be stabilizing with feet, with a no apparent way of doing it. You didn't appear to be in triangle shoes or anything, yet you seemed to be hanging on some way.

SC Don't tell, don't tell. (garble)

CDR Well, I won't

CDR Well, it's like I'm talking to you right now. You know, you asked how we adapt. I'm in the wardroom and my feet are up in the ceiling and my head is over the SIA with my back to the window. And I'm just dusting over here, you know just free floating up in the air with my feet in the ceiling.

CDR Are you still there, Houston?

CC Say again Pete?

CDR We did rig the fireman's pole. You know we've been using the strap, and we rigged the fireman's pole the other day. And the only thing about it is as I went up and did a couple of little wing dings around it, and I discovered even more so than you see this on the other things, that you've got to watch the old conservation of momentum, because I started circling it stretched fully out at arms length and went and pulled myself into the pole. And I really got wrapped up. That's the one device I think that you can get yourself going on where you can get flung off and get hurt if you weren't careful.

CC We copy that. Ballerinas probably could have made some comment on that one.

END OF TAPE

CC Dr. Ballerinas probably could have made some comment on that one.

CC And Pete, those details are onboard for your flight plan.

CDR Okay, we just had a first here. Paul fired one from the experiments compartment down off the top of the trash airlock and it returned all the way to where, Paul, the commam module - made it all the way to the command module.

CC Is that that miserable little sponge ball that has very little elasticity at all?

CDR Oh, no, this is a blue rubber ball, regular rubber ball.

CC Copy.

CC One last question, Pete. When you apply force to a body - your body. Do you get into much trouble with rolls and that sort of thing? Or do you pretty well sense where the center of gravity is?

CDR No, you sense real easy where it is. I - I mean we're not perfect because - mainly because of the kind of things that you're taking off from - but you have a pretty good idea how you want to take off. And you may not be able to push off the particular object just in the right manner, but we've gotten pretty good. I think the M151 movies and stuff will show you a lot more than the television did about how well we get around. But we've really adapted. I'm really convinced that the first day back we're going to leap out of bed and land right on our heads.

CC Yeah, we've got a football helmet set aside for you on that one Pete.

CDR Be helpful.

CDR Are you still there, Bill?

CC Yeah, we're still here, we've got about a minute and a half.

CDR One of the other things th I've noticed is that in holding ourselves while we're out here and doing our tasks we really use our stomach muscles. It's really interesting - I - the first three or four days that we were up here we kept finding ourselves just - really holding our stomachs to hold the right position - that you use your stomach muscles more than anything else I think in holding wherever you are. In working on it, whatever it is that you're working on.

CC Yeah, there's some pretty good physiological reasons for that because normally all of the vertebrai muscles are on the back side to take care of center gravity on Earth. And you really don't have much required on Earth. So, we're

SL-II MC- 884/2
Time: 20:51 CDT, 19:01:51 GMT
6/11/73

going LOS here in about 45 seconds and at Honeysuckle we'll be AOS at 02:29.

CDR Okay.

PAO We've had loss of signal with the Skylab space station. On this pass they started at the Canary Island tracking station and then had an overlap with the Madrid station. And came up with a very interesting thought - explanation of how it is to live, work, and I guess, play, in space. Earlier there was a daily medical conference and the results of that conference are available to us now as written by Dr. Charles E. Ross. Dr. Ross writes: "The Skylab crew is in good physical condition following their day of activities. The crew continues to eat well and the iodinated water tastes good according to the Science Pilot, Dr. Joseph Kerwin. The Science Pilot did perform a throat culture and slide study from material taken from the Commander's throat. He stated that the microscope and slide stainer worked well. We will next acquire the space station over the Honeysuckle site in 31 minutes. The pass there will be approximately eight minutes long. And at one hour 58 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-885/1
Time: 21:28 CDT 19:02:28 GMT
6/11/73

PAO This is Skylab Control Houston. Two hours 28 minutes, Greenwich mean time. The space station is approaching the Honeysuckle, Australia tracking site for what will probably be the last communication for the night. We'll stand by for air to ground with the crew through the Honeysuckle station.

CC Skylab, Houston. AOS for 7 minutes at Honeysuckle.

PLT Roger.

CC CDR, Houston.

PLT Say again.

CC Is the CDR available?

PLT He's listening.

CC Will you have a opportunity to answer the evening questions this pass since this is the last one before going to sleep.

PLT Okay, wait a minute. Let me go get him.

CDR The answer to question number 1 is on B channel. I just put it on there, about the locker door.

CC Copy.

PLT I got a question. I have an evening question for the EREP people, Houston.

CC Go.

PLT Does the TV camera, - I guess it doesn't does it The TV camera, when it's stalled on the VFS, does not look through the yellow filter, does it, I think, question?

CC That one's being worked.

SPT And Houston, SPT. The answer to question two is I woke up.

CC (Laughter) Copy, Joe.

CDR And he blew all his fuses. Are you ready for question three?

CC Okay.

CDR Three Alpha, no. Bravo, no. Charlie, no. Delta, yes. Anytime it got ready to stop. Echo, no. Foxtrot, yes.

CC Thank you very much.

CDR That new Beta angle that we got in the Alph (garble). get a look at going forward in orbit. I see my old buddy the Moon out there in front of us coming up. It looks pretty nice.

CC We copy.

CDR We're just coming up on New Zealand. I think I'll get a few pictures of that.

CC You're sure that's not Puerto Rico.

CDR You said Honeysuckle before I said New Zealand.

SL-II MC-885/2
Time: 21:28 CDT 19:02:28 GMT
6/11/73

CC Copy.
CC PLT, the TV does not look through the yellow filter. We're going LOS here in a few seconds and we'll see you tomorrow.
PLT Good night.
PAO We've had loss of signal through the Honeysuckle tracking station. And the Capcom Bill Thornton gave the crew a good night, thus ending another busy day, mission day 18. At 2 hours 38 minutes, Greenwich mean time, this is Skylab Control.

END OF TAPE